CLAIMS

1-58. (Cancelled)

59. (Currently Amended) An iodine injection system for injecting iodine into a chemical oxygen-iodine laser, the system comprising:

a nozzle having a central axis of symmetry and pair of opposed curved walls defining an area for gas flow there between, the nozzle including:

(a) an inlet defined by the pair of opposed curved walls;

(b) a throat located downstream from the inlet and defined by convergence of the pair of opposed curved walls, from the inlet to a pair of opposite sharp corners, at a point of closest convergence of the opposed walls;

(c) an exit nozzle portion having divergently extending portions of the pair of opposed curved walls extending from the sharp corners of the throat, the divergent extending portions of the pair of opposed walls terminating at a nozzle exit end; and

at least one curved strut located within the nozzle, the curved strut upstream of an exit plane and downstream of the throat; and

a plurality of orifices arrayed along the at least one curved strut, each orifice directed away from the throat of the nozzle toward the nozzle exit end ~~nozzle portion~~ and each orifice injecting iodine toward the nozzle exit end ~~portion~~.

60. (Previously Presented) The iodine injection system according to claim 59 further comprising a kernel region in the nozzle, the at least one curved strut located downstream from the kernel region.

61. (Previously Presented) The iodine injection system of claim 60 wherein a downstream edge of the kernel region is located between 10% to 50% of the distance from the throat to the exit plane.

62. (Previously Presented) The iodine injection system of claim 59 wherein the strut is located within 20% to 90% of the distance between the nozzle throat and the exit plane.

63. (Previously Presented) The iodine injection system according to claim 59 further comprising a carrier gas into which iodine is injected.

64. (Previously Presented) The iodine injection system according to claim 63 wherein the carrier gas is helium.

65. (Previously Presented) The iodine injection system according to claim 63 wherein the carrier gas is nitrogen.

66. (Cancelled)

67. (Cancelled)

68. (Withdrawn) The iodine injection system according to claim 59 wherein the strut further comprises a heating element.

69. (Previously Presented) The iodine injection system according to claim 59 further comprising gas flowing through the nozzle, the gas comprising oxygen.

70. (Currently Amended) An iodine injection system for injecting iodine into a chemical oxygen-iodine, the system comprising:

a nozzle comprising a nozzle body having an inlet portion, an outlet portion, and a throat, the throat located downstream from the inlet portion and defined by convergence of a pair of opposed curved walls, from an inlet to a pair of opposite sharp corners, at a point of closest convergence of the opposed curved walls, the ~~nozzle having an~~ inlet portion at one end of the throat, and ~~an~~ the outlet portion at an opposite end of the throat, the outlet portion bounded by opposed continuous convex walls of diminishing curvature as a wall distance from the throat increases, curvature of the walls approaching a straight line at a terminal end of the outlet portion;

at least one curved injection strut located within the outlet portion of the nozzle and

downstream of the throat; and

a plurality of orifices arrayed on the at least one curved strut, each orifice oriented to inject iodine away from the throat and toward an exit plane of the nozzle.

71. (Previously Amended) The iodine injection system according to claim 70 wherein the nozzle has a kernel region and the strut is located downstream from an end of the kernel region.

72. (Previously Presented) The iodine injection system of claim 71 wherein a downstream edge of ~~a~~ the kernel region is located between 10% to 50% of the distance from the throat to ~~an~~ the exit plane.

73. (Previously Amended) The iodine injection system of claim 70 wherein the strut is located within 20% to 90% of the distance between the nozzle throat and the exit plane.

74. (Previously Presented) The iodine injection system according to claim 70 further comprising a carrier gas ~~is~~ injected with iodine through the plurality of orifices.

75. (Previously Presented) The iodine injection system according to claim 74 wherein the carrier gas is helium.

76. (Previously Presented) The iodine injection system according to claim 74 wherein the carrier gas is nitrogen.

77. (Withdrawn) The iodine injection system according to claim 70 wherein the strut further comprises a heating element.

78. (Previously Presented) The iodine injection system according to claim 70 further comprising a gas including oxygen flowing through the nozzle.

79. (Currently Amended) An iodine injection system for injecting iodine into a chemical oxygen-iodine laser, the system comprising:

a two dimensional nozzle comprising a nozzle body having a throat, the nozzle having an inlet portion at one end of the throat, and an outlet portion with an exit plane at an opposite end of the throat, the outlet portion bounded by opposed continuous convex walls of diminishing curvature as a wall distance from the throat increases, curvature of the walls approaching a straight line at a terminal end of the outlet portion, the throat located downstream from the inlet portion and defined by a pair of opposed curved walls, said walls converging from an inlet to a pair of opposed sharp corners at a point of closest convergence of the opposed curved walls;

a kernel region of the nozzle located between 10% to 50% of the distance from the throat to the exit plane of the nozzle;

at least one curved injection strut located within the outlet portion of the nozzle, downstream of the throat, and between 20% to 90% of the distance from the throat to the exit plane; and

a plurality of orifices arrayed on the at least one curved injection strut, each orifice oriented to inject gas away from the throat and toward the exit plane of the nozzle.